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10/589,683

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Astrid Bernsdorf

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EXAMINER

ZIMMERMAN, JOSHUA D

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,683	Applicant(s) BERNSDORF ET AL.	
	Examiner JOSHUA D. ZIMMERMAN	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 52-99 is/are pending in the application.
- 4a) Of the above claim(s) 53-55, 61, 62, 78-82 and 85-92 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 46-60, 63-77, 83, 84 and 93-99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/8/2010; 8/16/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 53-55, 61, 62, 78-82 and 85-92 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/15/2010.
2. Examiner notes that the claims indicated by applicants as being readable on the elected species are different from those indicated above. Based upon Examiner's understanding of the specification, especially at pages 11 and 12, the claims withdrawn are deemed to correspond to different species, or to species which could be easily examined with the elected species.

Specification

3. The disclosure is objected to because of the following informalities: every instance of 'silicon' should be 'silicone' where the material intended is NOT the elemental species silicon. That is, in every instance wherein the species intended is a resin, polymer or rubber, 'silicone' should be used instead of 'silicon.'

This error is contained throughout the specification at numerous locations. Applicants are urged to take care in making sure each instance is corrected. While correcting this error, applicants are also encouraged to take the opportunity to make sure no further typographical or other errors are present in the specification.

Appropriate correction is required.

Claim Objections

4. Claims 68 and 69 objected to because of the following informalities: 'silicon oil' should be 'silicone oil'. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 52, 56-60, 63-71, 74-76, 93, 98 and 99 are rejected under 35 U.S.C. 102(b) as being anticipated by Morrison et al. (EP 0 455 343).

Regarding claim 52, Morrison et al. teach "a method for printing of a recording medium, comprising the steps of:

generating potential images of images to be printed on a potential image carrier (page 12, lines 36-38);

developing the potential images into an image film comprising image regions and non-image regions on the potential image carrier via application of a liquid developer comprising polymerizable carrier fluid with dye particles suspended therein (page 12, line 38);

transferring the image film onto the recording medium (page 13, lines 24-25);

fixing the image film on the recording medium via a cross-linking reaction of the carrier fluid such that the dye particles of the image regions are embedded in a fixed polymer matrix and the carrier fluid hardens into a transparent film that permanently bonds with the recording medium (page 13, lines 23-24; page 8, line 36); and

starting, accelerating, or extending the cross-linking reaction of the carrier fluid by at least one component (paragraph bridging pages 12 and 13)."

Regarding claim 56, Morrison et al. further teach "a method according to claim 52 in which radiation or radiation energy acts on the carrier fluid as said at least one component (page 13, line 35)."

Regarding claim 57, Morrison et al. further teach "the radiation energy is supplied in the form of heat (page 13, lines 38-39)."

Regarding claim 58, Morrison et al. further teach "the radiation energy acts via corona irradiation (page 13, line 46)."

Regarding claim 59, Morrison et al. further teach "a gas acts on the carrier fluid as said at least one component (met by the drying step)."

Regarding claim 60, Morrison et al. further teach "a solid material or a fluid that acts as a reaction partner is used as said at least one component (page 13, line 52)."

Regarding claim 63, Morrison et al. further teach "a plurality of components act on the carrier fluid at different points in the printing process (page 13, lines 26-33)."

Regarding claim 64 Morrison et al further teach "the addition of radiation or action of increased humidity occurs after the development of the toner image (page 13, lines 26-27)."

Regarding claim 65, Morrison et al. further teach "an admixture of a reaction partner into liquid developer occurs via a spray strip or roller application unit in a developer station or after the transferring onto the recording medium (page 14, lines 53-55)."

Regarding claim 66, Morrison et al. further teach "given a solid material or a fluid as said at least one component, the recording medium is pre-coated therewith (page 13, lines 31-34)."

Regarding claim 67, Morrison et al. further teach "the carrier fluid is hardened into the transparent film in the non-image regions (page 13, lines 23-25)."

Regarding claim 68, Morrison et al. further teach "the carrier fluid is based on silicon oil (page 12, lines 9-15)."

Regarding claim 69, Morrison et al. further teach "the silicon oil comprises polydimethylsiloxane (page 12, line 14)."

Regarding claim 70, Morrison et al. further teach "the carrier fluid comprises molecules derived from polydimethylsiloxane that exhibit functional groups (page 12, lines 14-15)."

Regarding claim 71, Morrison et al. further teach "the liquid developer exhibits a weight proportion of dye particles of 10 to 50% (page 10, lines 55-57)."

Regarding claims 74-75, no process steps are positively recited which would define over the process of Morrison et al.

Regarding claim 76, Morrison et al. further teach "the cross-linking of the carrier fluid occurs via a reaction of radicals with methyl groups of the polydimethylsiloxane

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(page 6, lines 39-57)."

Regarding claim 93, Morrison et al. further teach "cross-linking of the carrier fluid occurs with addition of an auxiliary substance and/or of auxiliary energy (page 13, line 35)."

Regarding claim 98, each of the structural features claimed would inherently be met by the structure required to carry out the method of Morrison et al., as applied to claim 52 above.

Regarding claim 99, Morrison et al. teach "a method for printing of a recording medium, comprising the steps of:

generating potential images of images to be printed on a potential image carrier (page 12, lines 36-38);

developing the potential images into an image film comprising image regions and non-image regions on the potential image carrier via application of a liquid developer comprising polymerizable carrier fluid with dye particles suspended therein (page 12, line 38);

transferring the image film onto the recording medium (page 13, lines 24-25);

fixing the image film on the recording medium via a cross-linking reaction of the carrier fluid such that the dye particles of the image regions are embedded in a fixed polymer matrix and the carrier fluid hardens into a film that permanently bonds with the recording medium (page 13, lines 23-24; page 8, line 36); and

affecting the cross-linking reaction of the carrier fluid by at least one component

(paragraph bridging pages 12 and 13)."

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 72, 73 and 94-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison et al.

Regarding claims 72 and 73, Morrison et al. teach all that is claimed, as in claim 52 above, except "the developer fluid exhibits a concentration of dispersion stabilizers in a range from 0.5 to 5%." However, Examiner takes Official Notice that, at the time of the invention, it was common and well-known to provide dispersion stabilizers to developers in a concentration range of 1 to 5% in order to stabilize the developer dispersion. Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to provide the developer fluid of Morrison et al. with a concentration of dispersion stabilizers in a range from 0.5 to 5% in order to stabilize the developer fluid dispersion.

9. Regarding claims 94, 96 and 97, Morrison et al. teach all that is claimed, as in claim 52 above, except "excess carrier fluid is removed by a conditioning roller." However, Examiner takes Official Notice that, at the time of the invention, it was common and well-known to use a roller with an absorbent surface to remove liquid or

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undeveloped material from a carrier in order to clean the carrier. Furthermore, the material is removed from the roller with a doctor blade. Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to include a roller with an absorbent surface and a doctor blade in order to clean the carrier.

Regarding claim 95, Morrison et al., as modified, teach all that is claimed, as in claim 94 above, except “a potential is applied to the conditioning roller such that the dye particles are repelled and the carrier fluid is separated.” However, Examiner takes Official Notice that it was known, at the time of the invention, to apply a potential to rollers to prevent the transfer of unwanted material to the roller. Since it is not desirable to have the toner particles transfer from the carrier, at the time of the invention, it would have been obvious to one having ordinary skill in the art to supply a potential to the conditioning roller in the modified method of Morrison et al. in order to prevent the unwanted transfer of toner particles away from the carrier.

10. Claims 77, 83 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison et al. in view of Merrill et al. (US 4130599).

Regarding claims 77, 83 and 84, Morrison et al. teach all that is claimed, as in claims 76 and 52 above, including that PDMS can be used as the silicone oils (page 12, line 14). Morrison et al. fail to teach the mechanism by which the PDMS is crosslinked. Merrill et al. teach benzyl peroxides and heat can be used to crosslink PDMS (column 9, lines 36-47). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to use benzyl peroxide and heat in the method of

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Morrison et al. in order to crosslink the PDMS.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA D. ZIMMERMAN whose telephone number is (571)272-2749. The examiner can normally be reached on Monday-Friday, 9:30A-6:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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